

12. Identify the acids and bases and then label the conjugate acid/base pairs. $\text{HCOOH(aq)} + \text{CN}^- \rightleftharpoons \text{HCOO}^-(\text{aq}) + \text{HCN(aq)}$
13. Use the five step process to predict the predominant acid/base reaction in a mixture of A. Hydrofluoric acid and potassium sulfate B. Hydrochloric acid added to baking soda(sodium hydrogen carbonate)
14. Samples of an unknown solution turned both methyl orange and bromothymol blue ot yellow, and turned bromocresol green to blue. A. Give the range of pH for the unknown solution. B. Calculate the approximate Hydronium(or H^+)concentration.

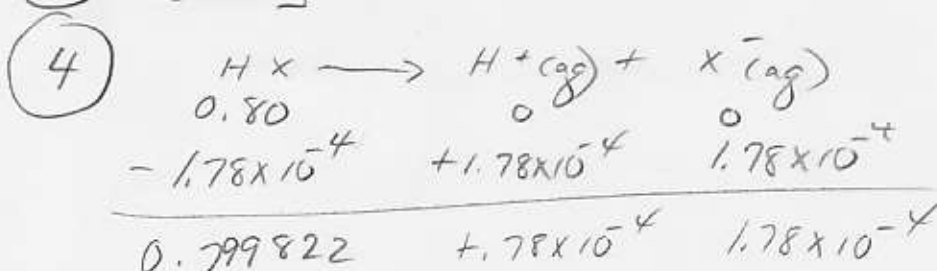
→ Some Group Review Worksheet

→ Answers

(1) $7.69 \times 10^{-13} \text{ mol/L or M}$

(2) $5.00 \times 10^{-3} \text{ M}$

(3) $[\text{OH}^-] = .03125 \text{ M} \quad [\text{H}^+] = 3.2 \times 10^{-3} \text{ M}$



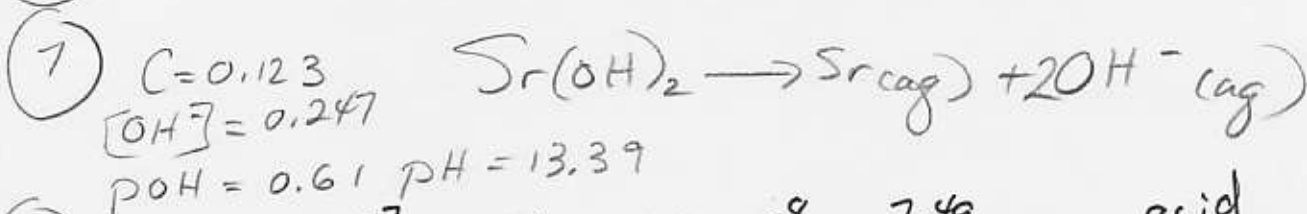
M or mol/L (14) use Indicator table

$$K_a = \frac{[1.78 \times 10^{-4}]^2}{0.799822}$$

$$K_a = 3.96 \times 10^{-8} \frac{\text{mol}^2}{\text{L}^2}$$

(5) 2.82

(6) $10^{-2.92} = 1.20 \times 10^{-3} \text{ M}$



(8)	A	3.13×10^{-7}	6.51	3.2×10^{-8}	7.49	acid
	B	1.6×10^{-7}	7.0	1.0×10^{-7}	7.0	neutral
	C	4.0×10^{-8}	7.39	2.45×10^{-7}	6.61	base

